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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,227

07/11/2003

Jung-Lin Pan

I-2-0456.1US

4405

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EXAMINER

PATHAK, SUDHANSHU C

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

02/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/618,227	Applicant(s) PAN ET AL.	
	Examiner Sudhanshu C. Pathak	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-5, 8-10, 13-15 and 18-29 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 11, 12, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-30 are pending in the application.

Claim Objections

2. Claim 30 is objected to because of the following informalities: The Claim recites

"The system of claim 25...", however, Claim 25 is addressed to a method.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2 (method) & 6-7 (system) & 11-12, 16-17 (means) are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of Eidson (2004/0047284).

In regards to Claims 1, 6, 11 & 16, the AAPA discloses a wireless communications system (Page 1, Paragraph(s) 7-9) {Interpretation: The reference discloses a wireless communications system including a CDMA, TDD/CDMA}. The AAPA further discloses a method of performing channel estimation using a known training sequence (Fig. 1 & Paragraph 9, lines 1-9) {Interpretation: The reference discloses receiving a known training sequence (midamble) for channel estimation}. The AAPA further discloses midamble(s) having differing lengths (Paragraph 9, lines 9-12) {Interpretation: The reference discloses the midamble of various lengths used

for channel estimation}. The AAPA further discloses performing FFT on the received signals (Paragraph 10). However, the AAPA does not disclose extending the FFT to a desired length "L" for more efficient computation.

Eidson discloses a wireless communications receiver (Fig. 11). Eidson further discloses receiving a reference signal of variable length (Paragraphs 122-124). Eidson further discloses extending the FFT to a desired length "L" for more efficient computation (Paragraph 125). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Eidson teaches extending the FFT to a desired length "L" for more efficient computation and this is implemented in the system as described in the AAPA so as to be able to vary the pilot (training) sequence depending on the channel conditions and the desired accuracy of the channel estimate.

In regards to Claims 2, 7, 12 & 17, the AAPA in view of Eidson discloses a wireless communications system as described above. The AAPA further discloses the FFT is extended to the length L to process a plurality of different burst types associated with the reference signals (Paragraph 9, lines 9-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that AAPA in view of Eidson satisfies the limitations of the claims.

Allowable Subject Matter

5. Claims 3-5, 8-10, 13-15, 18-29 are allowed over the Prior Art of record.

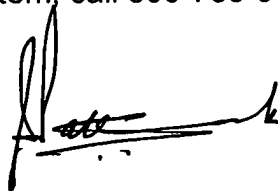
Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is 571-272-5509. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'S. Pathak', is written over a horizontal line.